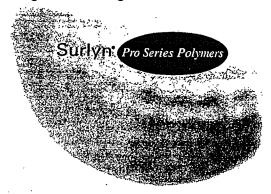
## EXHIBIT 5





## JIS C and Shore D/Shore A Hardness Values

When evaluating golf ball cover materials, it is often desirable to understand how hardness values from one testing protocol correlate with those from another. Specifically, the recent proliferation of Japanese patents has left many U.S. manufacturers and materials suppliers wondering how Japanese hardness values (which are measured as "JIS C") correspond to Shore D and Shore A values commonly used in the United States (per ASTM D-2240).

With regression analysis, it is possible to "translate" JIS C values into Shore D and Shore A values. Using golf ball cover materials with hardness values ranging from 45 to 91 JIS C, DuPont took corresponding measurements with Shore D and Shore A gauges (Tables I and II). The resulting trendline plots (Figures 1 and 2, reverse side) can be used to read the equivalent Shore D or Shore A value for any JIS C value in this range.

The linear equations shown with these plots also can be used to calculate the equivalent Shore D or Shore A values for any given JIS C value. For example, using the equation Shore D =  $(0.76 \cdot \text{JIS C})$ -8, a JIS C hardness value of 75 produces a Shore D hardness value of  $49 = (0.76 \cdot 75)$ -8.

Table I. Correlation Between JIS C vs. Shore D Hardness Values.

JIS_C_	91	91	91	87	84	80	·79	71	68	63	56	56	45	45
Shore D	61	63	64	56	52	55	52	45	43	40	35	34	27	26

Table II. Correlation Between JIS C vs. Shore A Hardness Values.\*

[										
+	JIS.C.	80	79	71	68	63	56	56	45	45
1	Shore A	94	95	92	92	89	86	87	82	83

<sup>\*</sup>Shore A values above JIS C 80 are not meaningful; Shore D values are used at this point.

Figure 1.
Regression
Analysis of
Shore D vs.
JIS C Hardness
Values.

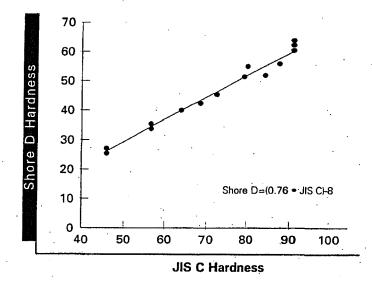
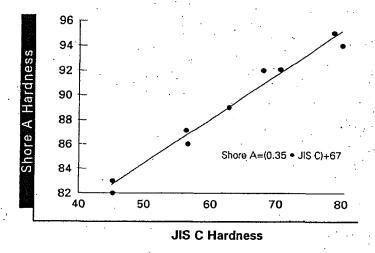


Figure 2.
Regression
Analysis of
Shore A vs.
JIS C Hardness
Values.



## For more information about Surlyn<sup>o</sup> ionomer resins, contact DuPont at 1-800-438-7225.

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